

Abstract

Systems and methods related to amplifier systems which use a predistortion subsystem to compensate for expected distortions in the system output signal. A predistortion subsystem receives an input signal and applies a predistortion modification to the input signal. The predistortion modification may be a phase modification, a magnitude modification, or a combination of both. The predistorted signal is then received by an amplifier subsystem. The amplifier subsystem decomposes the predistorted signal into separate components, each having a constant envelope phase modulation, and separately amplifies each component. The phase modulated and amplified components are then recombined to arrive at an amplitude and phase modulated and amplified output signal. The predistortion modification is applied to the input to compensate for distortions introduced in the signal by the amplifier subsystem.